

within the period of time, whereby each time-based queue is set to dequeue all of its contents at a separate time,

wherein the processor is configured or designed to direct (i) data or (ii) grants to transmit data to particular time-based queues based upon network traffic shaping delays prescribed for the data or grants to transmit the data.

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B2 12. (Amended) An apparatus for controlling data flow through a network, the apparatus comprising:

traffic shaping means for determining how long to buffer data or grants to transmit data; and

buffering means for buffering the data or grants to transmit data in a plurality of time-based queues together defining a period of time, with each time-based queue defining a separate increment of time within the period of time, whereby each time-based queue is set to dequeue all of its contents at a separate time.

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B3 15. (Amended) A method of controlling data flow through a network, the method comprising:

determining that transmitting additional data to or from a network node will or will likely exceed a maximum allowed data flow for the network node;

selecting one of a plurality of time-based queues that together define a period of time, with each time-based queue defining a separate increment of time within the time period, whereby each time-based queue is set to dequeue all of its contents at a separate time associated with its increment of time; and

buffering the additional data or a grant to transmit the additional data in the selected one of the plurality of time-based queues.

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B4 25. (Amended) A computer program product comprising a machine-readable medium on which are stored program instructions for controlling data flow through a network, the program instructions comprising:

determining that transmitting additional data to or from a network node will or will likely exceed a maximum allowed data flow for the network node;

selecting one of a plurality of time-based queues that together define a period of time, with each time-based queue defining a separate increment of time within the time period,

whereby each time-based queue is set to dequeue all of its contents at a separate time associated with its increment of time; and

buffering the additional data or a grant to transmit the additional data in the selected one of the plurality of time-based queues.

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B5 28. (Amended) A computer program product comprising a machine readable medium on which is provided program instructions for controlling data flow through a network, the program instructions comprising:

program code for determining that transmitting additional data to or from a network node will or will likely exceed a maximum allowed data flow for the network node;

program code for selecting one of a plurality of time-based queues that together define a period of time, with each time-based queue defining a separate increment of time within the time period, whereby each time-based queue is set to dequeue all of its contents at a separate time associated with its increment of time; and

program code for buffering the additional data or a grant to transmit the additional data in the selected one of the plurality of time-based queues.

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B6 30. (Amended) An apparatus for controlling data flow through a network, the apparatus comprising:

means for determining that transmitting additional data to or from a network node will or will likely exceed a maximum allowed data flow for the network node;

means for selecting one of a plurality of time-based queues that together define a period of time, with each time-based queue defining a separate increment of time within the time period, whereby each time-based queue is set to dequeue all of its contents at a separate time associated with its increment of time; and

means for buffering the additional data or a grant to transmit the additional data in the selected one of the plurality of time-based queues.

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